

Notice of Allowability

Application No.

10/664,333

Examiner

Eric B. Chen

Applicant(s)

IGARASHI ET AL.

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1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/17/03.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 12/29/03 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 8/20/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Allowable Subject Matter

2. Claims 1-9 are allowed.
3. The following is an examiner's statement of reasons for allowance for claim 1: the prior art fails to teach or suggest covering said second conductive film with a photoresist layer having an inclined surface at opening portions; selectively forming a conductive wiring layer at the opening portions of said photoresist layer and providing an inverted inclined surface around said conductive wiring layer; and removing said second conductive film by use of said conductive wiring layer as a mask, as in the context of claim 1. The closest prior art, Yagi et al. (U.S. Patent No. 6,133,070) discloses a method of manufacturing circuit devices, comprising: preparing a substrate by laminating a first conductive film (120) and a second conductive film (110A) to cover a principle surface of the first conductive film (120) (column 40, lines 10-12; Figures 6A-6C); covering said second conductive film (110A) with a photoresist layer (150) in a desirable pattern (column 40, lines 26-29; Figure 6I); removing said second conductive film by use of photoresist layer as a mask (column 40, lines 29-32; Figure 6J); fixedly fitting semiconductor elements (610) on said first conductive film and electrically

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connecting electrodes of said semiconductor elements with predetermined parts of said conductive wiring layer (column 42, lines 52-56; Figure 7B); covering said semiconductor elements with a sealing resin layer (630) (column 42, lines 57-62; Figure 7C); and removing said first conductive film (120) to expose said second conductive film positioned on the rear surface of said sealing resin layer and said conductive wiring layer (column 42, lines 63-65; Figure 7D). However, there is no suggestion of motivation of: covering said second conductive film with a photoresist layer having an inclined surface at opening portions; selectively forming a conductive wiring layer at the opening portions of said photoresist layer and providing an inverted inclined surface around said conductive wiring layer; and removing said second conductive film by use of said conductive wiring layer as a mask, as in the context of claim 1.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanaka et al. (U.S. Patent No. 5,258,649) discloses a semiconductor device mounted to a package structure, encased in a resin that is anchored to a base body. Kato et al. (U.S. Patent No. 5,135,606) discloses a

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process for preparing an electrical connecting member, using a photoresist with an inclined surface at opening portions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Chen whose telephone number is (571) 272-2947. The examiner can normally be reached on Monday through Friday, 8AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EBC

May 10, 2005

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER